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PACKAGING BOX

- (57)

The present disclosure relates to a packaging box. The packaging box comprises a first box body (10), a second box body (20) and a third box body (30). The first box body (10) comprises a first accommodating portion (11), and the first accommodating portion (11) has a first accommodating chamber (11a) and a first opening (11b) communicated with the first accommodating chamber (11a) in a first direction (X). The connecting assembly comprises connecting plates (40) arranged in pairs and distributed opposite to each other on two sides of the first box body (10) in a second direction (Y). The second box
- body (20) is connected with one of the connecting plates (40) arranged in pairs and has a second accommodating chamber (21a). The third box body (30) is connected with the other of the connecting plates (40) arranged in pairs and has a third accommodating chamber (31a). The packaging box is switchable between a first state and a second state to close or open the first opening (11b). The packaging box according to the present disclosure has different shapes and structures to provide multiple display modes for products in the box.

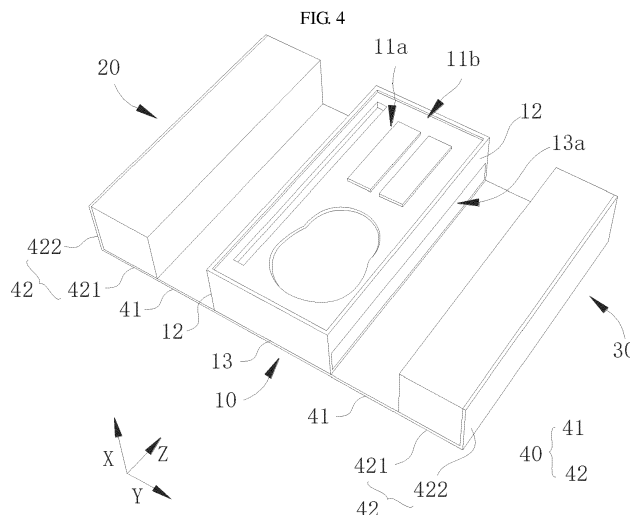


FIG. 5

## Description

### TECHNICAL FIELD

**[0001]** The present disclosure relates to the technical field of packaging, and in particular to a packaging box.

### BACKGROUND

**[0002]** At present, in a packaging box on the market, a flip cover is usually open to see a single display effect or a single combination effect of products in the box. And in very few packaging boxes with different display functions on the market, when the box is open, only one product in the box, or only another product in the box can be seen. It is impossible to display all the products in the box at the same time.

### SUMMARY

**[0003]** In view of the above technical problem, the present disclosure provides a packaging box that can be changed into structures of different shapes, so the products in the box can be displayed in a variety of ways, which is beneficial to meet different needs of users.

**[0004]** In one aspect, embodiments of the present disclosure provide a packaging box, including: a first box body including a first accommodating portion, the first accommodating portion having a first accommodating chamber and a first opening communicated with the first accommodating chamber in a first direction; a connecting assembly including connecting plates arranged in pairs and distributed opposite to each other on two sides of the first box body in a second direction, the second direction intersecting the first direction; a second box body connected with one of the connecting plates arranged in pairs and having a second accommodating chamber; a third box body connected with the other of the connecting plates arranged in pairs and having a third accommodating chamber; wherein the packaging box is switchable between a first state and a second state to close or open the first opening. According to one aspect of embodiments of the present disclosure, the first box body includes a bottom wall arranged opposite to the opening along the first direction, and the connecting plates arranged in pairs are bendable relative to and connected with the bottom wall. According to one aspect of embodiments of the present disclosure, each of the connecting plates includes a first plate and a second plate that are bendable relative to and connected with each other, the second box body is connected with one of second plates arranged in pairs, and the third box body is connected with the other of the second plates arranged in pairs; and in the first state, first plates arranged in pairs are respectively attached to side walls of the first box body in the second direction, and in the second state, the first plates arranged in pairs are respectively at least partially separated from the side walls.

**[0005]** According to one aspect of embodiments of the present disclosure, the second box body has a second opening communicated with the second accommodating chamber in the first direction, and the third box body has a third opening communicated with the third accommodating chamber in the first direction; and each of the second plates includes a first sub-plate and a second sub-plate that are bendable relative to and connected with each other, the first sub-plate is provided between the first plate and the second sub-plate and is bendable relative to and connected with both the first plate and the second sub-plate, one of second sub-plates arranged in pairs is adapted to close the second opening, and the other of the second sub-plates arranged in pairs is adapted to close the third opening.

**[0006]** According to one aspect of embodiments of the present disclosure, in the first state, a length of the first plate in the first direction is the same as that of a respective side wall in the first direction.

**[0007]** According to one aspect of embodiments of the present disclosure, in the first state, a length of the first plate in the first direction is the same as that of the second box body and/or the third box body in the second direction.

**[0008]** According to one aspect of embodiments of the present disclosure, along the first direction, the bottom wall is spaced apart from the first accommodating portion, and a cavity is formed between the bottom wall and the first accommodating portion.

**[0009]** According to one aspect of embodiments of the present disclosure, the first box body, the second box body and the third box body are each formed in a rectangular structure. According to one aspect of embodiments of the present disclosure, the packaging box further includes a plurality of magnetic members, and the first box body, the second box body, the third box body and the connecting assembly are respectively provided with the magnetic members.

**[0010]** According to one aspect of embodiments of the present disclosure, the second state includes a first sub-state and a second sub-state, and the packaging box is switchable between the first sub-state and the second sub-state; and in the first sub-state, the connecting plates arranged in pairs are respectively arranged on two sides of the first box body along the second direction, and in the second sub-state, the connecting plates arranged in pairs are both arranged on one side of the first box body along the first direction.

**[0011]** The packaging box provided by the embodiments of the present disclosure includes the first box body, the second box body, the third box body and the connecting assembly, and can be switched between the first state and the second state. Each of the first box body, the second box body and the third box body has the accommodating chamber for accommodating products. In the first state, the connecting plates arranged in pairs are attached to the side walls of the first box body in the second direction, and the second box body and the third

box body jointly close the first opening of the first box body along the first direction, thereby facilitating the display of products in the second box body and the third box body. In the second state, the connecting plates arranged in pairs are at least partially separated from the side walls, and the first opening is open to facilitate the display of products in the first box body, the second box body and the third box body. By changing a positional relationship between the connecting assembly and the first box body, the packaging box can be switched between different states, to have various combined structures of different shapes and product display effects in various ways.

## BRIEF DESCRIPTION OF THE DRAWINGS

**[0012]** Drawings are incorporated in and constitute a part of the description, illustrate embodiments consistent with the present disclosure and, together with the description, serve principles of the present disclosure. In order to more clearly illustrate technical solutions of embodiments of the present disclosure, drawings that need to be used in the description of the embodiments will be briefly introduced below. Obviously, for those skilled in the art, other drawings can also be obtained based on these drawings without creative work.

**[0013]** Realization of aims, functional features and advantages of the present disclosure will be further described in conjunction with the embodiments and with reference to the drawings. By means of the above drawings, specific embodiments of the present disclosure have been shown, which will be described in more detail hereinafter. These drawings and text descriptions are not intended to limit the scope of the concept of the present disclosure in any way, but to illustrate the concept of the present disclosure for those skilled in the art by referring to specific embodiments.

FIG. 1 is a schematic structural view of a packaging box provided by the present disclosure in a first state; FIG. 2 is another schematic structural view of a packaging box provided by the present disclosure in a first state;

FIG. 3 is a schematic structural view of a packaging box provided by the present disclosure in a second state;

FIG. 4 is another schematic structural view of a packaging box provided by the present disclosure in a second state;

FIG. 5 is another structural schematic view of a packaging box provided by the present disclosure in a second state;

FIG. 6 is another structural schematic view of a packaging box provided by the present disclosure in a second state;

FIG. 7 is another structural schematic view of a packaging box provided by the present disclosure in a second state;

FIG. 8 is another structural schematic view of the

packaging box provided by the present disclosure in a second state.

Reference signs:

### [0014]

10-first box body; 11-first accommodating portion; 11a-first accommodating chamber; 11b-first opening; 12-side wall; 13-bottom wall; 13a-cavity; 20- second box body; 21a- second accommodating chamber; 21b- second opening; 30- third box body; 31a- third accommodating chamber; 31b- third opening; 40-connecting plate; 41-first plate; 42-second plate; 421-first sub-plate; 422-second sub-plate; X-first direction; Y-second direction; Z-third direction.

## DETAILED DESCRIPTION

**[0015]** Reference will now be made in detail to exemplary embodiments, examples of which are illustrated in drawings. When the following description refers to the drawings, the same numerals in different drawings refer to the same or similar elements unless otherwise indicated. The implementations described in the following exemplary embodiments do not represent all implementations consistent with the present disclosure. Rather, they are merely examples of apparatuses and methods consistent with aspects of the present disclosure as recited in appended claims.

**[0016]** It should be noted that, in the text, the term "comprising", "including" or any other variation thereof is intended to cover a non-exclusive inclusion such that a process, method, article or apparatus including a set of elements includes not only those elements, but also includes other elements not expressly listed, or elements inherent in the process, method, article, or apparatus. Without further limitations, an element defined by the statement "comprising a..." does not exclude the presence of other identical elements in the process, method, article, or apparatus that includes the element. In addition, components, features, and elements with the same name in different implementations of the present disclosure may have the same meaning, or may have different meanings, and the specific meaning shall be determined based on the explanation in the specific embodiment or further combined with the context in the specific embodiment.

**[0017]** It should be understood that although the terms first, second, third, etc. may be used herein to describe various information, the information should not be limited to these terms. These terms are only used to distinguish information from one another of the same type. For example, without departing from the scope of the text, first information may also be called second information, and similarly, second information may also be called first in-

formation. Depending on the context, the word "if" as used herein may be interpreted as "once" or "when" or "in response to a determination". Furthermore, as used herein, the singular forms "a", "an" and "the" are intended to include the plural forms as well, unless the context indicates otherwise. It should be further understood that the terms "comprising", "including" indicate the presence of stated features, steps, operations, elements, components, items, species, and/or groups, but do not exclude the existence of, occurrence of or addition to one or more other features, steps, operations, elements, components, items, species, and/or groups. The terms "or" and "and/or" as used herein are to be construed as inclusive, or to mean either one or any combination. Thus, "A, B or C" or "A, B and/or C" means "any of the following: A; B; C; A and B; A and C; B and C; A, B and C". Exceptions to this definition will only arise when combinations of elements, functions, steps or operations are inherently mutually exclusive in some way. When describing the structure of a component, when a layer or an area is referred to as being "on" or "over" another layer or another area, it may mean that it is directly on another layer or another area, or, other layers or areas are also included between it and another layer or another area. And, if the component is turned over, the layer or the area, will be "below" or "beneath" the another layer or another area. In embodiments of the present disclosure, "B corresponding to A" means that B is associated with A, and B can be determined according to A. However, it should also be understood that determining B according to A does not mean determining B only according to A, and B may also be determined according to A and/or other information.

**[0018]** It should be understood that the specific embodiments described here are only used to explain, and not to limit the present disclosure.

**[0019]** In the following description, the use of suffixes such as "module", "component" or "unit" for denoting elements is only for facilitating the description of the present disclosure and has no specific meaning by itself. Therefore, terms "module", "component" or "unit" may be exchanged.

**[0020]** The applicant found that, at present, a packaging box on the market usually has a design of a flip cover, and only a single display effect or a single combination effect of products in the box can be seen. And for some packaging boxes with different display functions, one of the products in the box can be seen, or only another product in the box can be seen when the packaging box is open. All the products in the box cannot be displayed at the same time, which affects the display of the products in the packaging box and limits needs of users.

**[0021]** In view of the above analysis, the applicant proposed a packaging box, including a first box body, a connecting assembly, a second box body and a third box body. By changing the positional relationship between the connecting assembly and the first box body, the packaging box can be switched between different states, thus the packaging box has various combined structures of

different shapes and product display effects in various ways under various combined structures of different shapes, which is beneficial to improve the versatility and universality of the packaging box, and can meet the needs of different users.

**[0022]** Referring to FIG. 1 to FIG. 8, embodiments of the present disclosure provide a packaging box, including a first box body 10, a connecting assembly, a second box body 20 and a third box body 30. The first box body 10 includes a first accommodating portion 11. The first accommodating portion 11 has a first accommodating chamber 11a and a first opening 11b communicated with the first accommodating chamber 11a in a first direction X. The connecting assembly includes connecting plates 40 arranged in pairs and distributed oppositely on both sides of the first box body 10 in a second direction Y. The second direction Y intersects the first direction X. The second box body 20 is connected with one of the connecting plates 40 arranged in pairs and has a second accommodating chamber 21a. The third box body 30 is connected with the other of the connecting plates 40 arranged in pairs and has a third accommodating chamber 31a. The packaging box is switchable between a first state and a second state to close or open the first opening 11b.

**[0023]** The packaging box in the embodiments of the present disclosure has a three-dimensional structure arranged along the first direction X, the second direction Y and the third direction Z. The packaging box of the embodiments of the present disclosure can be placed on a stable plane. For the convenience of illustration, the packaging box of the embodiments of the present disclosure is placed on a horizontal plane. In this case, the top in a vertical direction corresponds to the top of the embodiments of the present disclosure, and the bottom in the vertical direction corresponds to the bottom of the embodiments of the present disclosure. However, the packaging box of the embodiments of the present disclosure can also be placed on a surface inclined relative to the horizontal plane in a stable state.

**[0024]** The first box body 10 includes the first accommodating portion 11, and the first accommodating portion 11 has the first accommodating chamber 11a and the first opening 11b communicated with the first accommodating chamber 11a in the first direction X. In practical application of the packaging box provided in the embodiments of the present disclosure, the first accommodating chamber 11a can be used to accommodate products, and the present disclosure does not limit the type of products. Users can view or take and place the products in the first box body 10 through the first opening 11b.

**[0025]** The second box body 20 includes the second accommodating chamber 21a, and the third box body 30 includes the third accommodating chamber 31a. In practical application of the packaging box provided in the embodiments of the present disclosure, both the first accommodating chamber 11a and the second accommodating chamber 21a can be used to accommodate prod-

ucts.

**[0026]** Optionally, the first accommodating chamber 11a, the second accommodating chamber 21a and the third accommodating chamber 31a can accommodate the same type of products, of course, they can also accommodate different products.

**[0027]** Optionally, shapes and sizes of the second box body 20 and the third box body 30 can be the same, of course, can also be set to be different. That is, the volume of the second accommodating chamber 21a and the volume of the third housing chamber 31a can be the same, can also be different.

**[0028]** Optionally, the first accommodating chamber 11a, the second accommodating chamber 21a, and the third accommodating chamber 31a can be provided with the same or different accommodating clips, thus the products in the box can be kept relatively fixed with the packaging box of the embodiments of the present disclosure, which is beneficial to improve the stability and reliability of the structure of the packaging box. Of course, the first accommodating chamber 11a, the second accommodating chamber 21a and the third accommodating chamber 31a may not be provided with clips, which is beneficial to improve the versatility of the product, thus the packaging box can accommodate a variety of different types of products.

**[0029]** Optionally, the packaging box is switchable between the first state and the second state to close or open the first opening 11b. When the packaging box is in the first state, the first opening 11b is closed, and when the packaging box is in the second state, the first opening 11b is open.

**[0030]** In the first state, the connecting plates 40 arranged in pairs are attached to side walls 12 of the first box body 10 in the second direction Y, and the second box body 20 and the third box body 30 jointly close the first opening 11b along the first direction X. In the second state, the connecting plates 40 arranged in pairs are at least partially separated from the side walls 12, and the first opening 11b is open.

**[0031]** As shown in FIG. 1 and FIG. 2, FIG. 1 and FIG. 2 respectively represent a structural schematic view of the packaging box in the first state. When the packaging box is in the first state, the connecting plates 40 arranged in pairs are respectively attached to the side walls 12 of the first box body 10 in the second direction Y, and the second box body 20 and the third box body 30 jointly close the first opening 11b along the first direction.

**[0032]** Optionally, in the first state, the second box body 20, the third box body 30, and the first box body 10 are stacked along the first direction X, and are all clamped between the connecting plates 40 opposite to each other, to close the first opening 11b.

**[0033]** The packaging box in the first state as shown in FIG. 1 is convenient for transportation and carrying, the products in the first box body 10, the second box body 20 and the third box body 30 are prevented from falling out to improve the protection of the products, which is

beneficial to improve the reliability of the packaging box.

**[0034]** In the packaging box in the first state as shown in FIG. 2, the second box body 20 and the third box body 30 can be open to display the products in the box body. When the user only wants to open the second box body 20 and/or the third box body 30, it is convenient for the user to view or take and place the products in the second box body 20 and the third box body 30.

**[0035]** In some optional embodiments, the first box body 10 includes a bottom wall 13 disposed opposite to the first opening along the first direction X, and the connecting plates 40 arranged in pairs are bendable relative to and connected with the bottom wall 13.

**[0036]** The bottom wall 13 is a structure located at the bottom of the first box body 10, that is, a structure on a side away from the second box body 20 and/or the third box body 30 along the first direction X in the first state. Optionally, the bottom wall 13 can have a plate-shaped structure, and of course, it can also have a curved surface structure, a wave structure, and the like.

**[0037]** By the connecting plates 40 bendable relative to and connected with the bottom wall 13, it is beneficial to change the positional relationship between the connecting assembly and the first box body 10, thus the packaging box has various combined structures of different shapes with simple structures and easy operations. In addition, by the connection between the connecting plates 40 and the bottom wall 13 of the first box body 10, it is also beneficial to save costs and facilitate processing.

**[0038]** In order to facilitate the description of the process of changing the shape and structure of the packaging box proposed in the present disclosure, the embodiments of the present application will be described in detail with the help of a first surface and a second surface. As shown in FIG. 1, a side of the first box body 10 close to the second box body 20 along the first direction X is defined as the first surface, and a side of the first box body 10 away from the second box body 20 along the first direction X is defined as the second surface. When the packaging box is deformed to change into a different state, a bending toward a direction of the first surface means that an angle less than 180° is formed between first surfaces of two parts that are relatively bent, and an angle greater than 180° is formed between second surfaces. Correspondingly, bending toward a direction of the second surface means that an angle smaller than 180° is formed between the second surfaces of the two parts that are relatively bent, and an angle greater than 180° is formed between the first surfaces, which will not be described in detail in the present disclosure.

**[0039]** Optionally, by the connecting plates 40 arranged opposite to each other bendable relative to and connected with the bottom wall 13, and when the angle between the connecting plates 40 and the bottom wall 13 is a certain angle, the connecting plates 40 arranged in pairs are respectively attached to the side walls 12 of the first box body 10 in the second direction Y and are connected with the second box body 20 and the third box

body 30 respectively, to set the packaging box in the first state. By the connecting plates 40 in the first state turned by a certain angle along the direction of the second surface, the connecting plates 40 arranged in pairs are at least partially separated from the side walls 12, the first opening 11 b is open, and the packaging box is in the second state.

**[0040]** In some optional embodiments, each of the connecting plates 40 includes a first plate 41 and a second plate 42 that are bendable relative to and connected with each other. The second box body 20 is connected with one of second plates 42 arranged in pairs, and the third box body 30 is connected with the other of the second plates 42 arranged in pairs. In the first state, the first plates 41 arranged in pairs are respectively attached to the side walls 12 of the first box body 10 in the second direction Y; in the second state, the first plates 41 arranged in pairs are respectively at least partly separated from the side walls 12.

**[0041]** Through the above arrangement, it is beneficial to bend the connecting plates 40 to change the positional relationship between the connecting assembly and the first box body 10, thus the packaging box has various combined structures of different shapes and product display effects in various ways with simple structures and easy operations.

**[0042]** Optionally, each first plate 41 is disposed between the bottom wall 13 and a respective second plate 42, and is bendable relative to and connected with both the first wall 13 and the second plate 42.

**[0043]** In some optional embodiments, the second box body 20 has the second opening 20b communicated with the second accommodating chamber 20a in the first direction X. The third box body 30 has the third opening 30b communicated with the third accommodating chamber 30a in the first direction X. Each second plate 42 includes a first sub-plate 421 and a second sub-plate 422 that are bendable relative to and connected with each other. The first sub-plate 421 is disposed between the first plate 41 and the second sub-plate 422, and is bendable relative to and connected with both the first plate 41 and the second sub-plate 422. One of second sub-plates 422 arranged in pairs can be arranged to close the second opening 20b, and the other of the second sub-plates 422 arranged in pairs can be arranged to close the third opening 30b.

**[0044]** Through the above arrangement, it is beneficial to ensure that the connecting plates 40 are bendable to change the effectiveness of the positional relationship between the connecting assembly and the first box body 10, thus the packaging box has various combined structures of different shapes and product display effects in various ways with simple structures and easy operations.

**[0045]** The second sub-plate 422 is a structure located on the top of the second box body 20, i.e., a structure on a side away from the first box body 10 along the first direction X in the first state. Correspondingly, the first sub-plate 421 is a structure located on the top of the

second box body 20, i.e., a structure on a side away from the first box body 10 along the first direction X in the first state.

**[0046]** By the first sub-plate 421 and the second sub-plate 422 provided in such a way that they are bendable relative to and connected with the connecting plates 40 respectively, the user can turn the first sub-plate 421 to open the second opening 21b, to display the products in the second accommodating chamber 21a of the second box body 20, which is convenient for the user's demand for observing or taking. And/or, the user can turn the second sub-plate 422 to open the third opening 31b, to display the products in the third accommodating chamber 31a of the third box body 30, which is convenient for the user's demand for observing or taking. Moreover, by the second opening 20b and the third opening 30b provided in the first direction X, it is convenient for the user to view or take and place the products in the second box body 20 and the third box body 30, and improve the versatility of the packaging box of the present disclosure.

**[0047]** In some optional embodiments, the second state includes a first sub-state and a second sub-state, and the packaging box is switchable between the first sub-state and the second sub-state. In the first sub-state, the connecting plates 40 arranged in pairs are respectively arranged on both sides of the first box body 10 along the second direction Y, and in the second sub-state, the connecting plates 40 arranged in pairs are both arranged on one side of the first box body 10 along the first direction X.

**[0048]** The packaging box can be changed between the first state and the second state, the second state includes the first sub-state and the second sub-state, and the packaging box can be changed between the first sub-state and the second sub-state. That is to say, the packaging box provided in the embodiments of the present disclosure is switchable among the first state, the first sub-state and the second sub-state.

**[0049]** Please refer to FIG. 3 to FIG. 6. Optionally, the packaging box may include two different shapes and structures in the first sub-state, and FIG. 3 to FIG. 6 may respectively show the structural diagrams of the packaging box in the first sub-state.

**[0050]** Optionally, the connecting plates 40 arranged in pairs in the packaging box in the first state (as shown in FIG. 1) are at first respectively turned by a certain angle towards the direction of the second surface, and then turned by a certain angle towards the direction of the first surface, to locate the connecting plates 40 arranged in pairs respectively on both sides of the first box body 10 in the second direction Y and at least partially separate them from the side walls 12, and open the first opening 11b. In this case, the packaging box is changed from the first state transitions to the first sub-state of the second state, and the packaging box is in a first shape and structure in the first sub-state (as shown in FIG. 3).

**[0051]** Exemplarily, the connecting plates 40 arranged in pairs in the packaging box in the first state are at first

turned by 90° towards the direction of the second surface, and then turned by 90° towards the direction of the first surface, thus the packaging box is in the first shape and structure in the first sub-state.

**[0052]** Specifically, the first plates 41 arranged in pairs in the packaging box in the first state are respectively turned by 90° towards the direction of the second surface with respect to the bottom wall 13, and then the second plates 42 arranged in pairs and/or the first sub-plates 421 arranged in pairs are turned by 90° towards the direction of the first surface relative to the first plate 41, thus the packaging box is changed from the first state (as shown in FIG. 1 ) to the first shape and structure in the first sub-state (As shown in FIG. 3).

**[0053]** In this case, the second box body 20 is located on one side of the first box body 10 in the second direction Y and is attached to the first box body 10, and the third box body 30 is located on other side of the first box body 10 in the second direction Y and is attached to the first box body 10, to open the first opening 11b. The user can observe the products in the first accommodating portion 11 through the first opening 11b, or take and place them in the first accommodating portion 11 through the first opening 11b.

**[0054]** In addition, the first sub-plate 421 and the second sub-plate 422 are respectively turned by a certain angle toward the direction away from each other and toward the direction of the second surface, to open both the second opening 21b and the third opening 31b. The user can observe the products in the second box body 20 through the second opening 21b, or take and place the products in the second box body 20 through the second opening 21b. Correspondingly, the user can observe the products in the third box body 30 through the third opening 31b, or take and place the products in the second box body 20 through the third opening 31b.

**[0055]** Optionally, the connecting plates 40 arranged in pairs in the packaging box in the first state (as shown in FIG. 1) are at first turned by at a certain angle toward the direction of the second surface, to locate the connecting plates 40 arranged in pairs respectively on two sides of the first box body 10 in the second direction Y and are at least partially separate them from the side walls 12, and open the first opening 11b. In this case, the packaging box is changed from the first state to the first sub-state of the second state, and the packaging box is in a second shape and structure in the first sub-state (as shown in FIG. 5).

**[0056]** Exemplarily, the connecting plates 40 arranged in pairs in the packaging box in the first state are turned by 90° toward the direction of the second surface, thus the packaging box is in the second shape and structure in the first sub-state.

**[0057]** Specifically, the first plates 41 arranged in pairs in the packaging box in the first state are turned by 90° towards the direction of the second surface with respect to the bottom wall 13, thus the packaging box is changed from the first state (as shown in FIG. 1) to the first shape

and structure in the first sub-state (as shown in FIG. 5).

**[0058]** In this case, the second box body 20 is located on one side of the first box body 10 in the second direction Y and is spaced apart from the first box body 10, and the third box body 30 is located on the other side of the first box body 10 in the second direction Y and is spaced apart from the first box body 10, to open the first opening 11b. The user can observe the products in the first accommodating portion 11 through the first opening 11b, or take and place the products in the first accommodating portion 11 through the first opening 11b.

**[0059]** In addition, the first sub-plate 421 and the second sub-plate 422 are respectively turned by a certain angle toward the direction away from each other and toward direction of the second surface, to open both the second opening 21b and the third opening 31b. The user can observe the products in the second box body 20 through the second opening 21b, or take and place the products in the second box body 20 through the second opening 21b. Correspondingly, the user can observe the products in the third box body 30 through the third opening 31b, or take and place the products in the third box body 30 through the third opening 31b.

**[0060]** Through the above arrangement, when the packaging box is in the first sub-state, the products in the first box body 10 can be visually displayed, and the second box body 20 and the third box body 30 can also be open according to user's needs, to display the products in the first box body 10, the second box body 20 and the third box body 30. That is to say, the packaging box proposed by the present disclosure can display some of the products, and can also display all products at the same time, which is beneficial to improve the versatility of the packaging box to meet different users' needs.

**[0061]** Please refer to FIG. 7 and FIG. 8. Optionally, the packaging box may include two different shapes and structures in the second sub-state. FIG. 7 and FIG. 8 can respectively show structural diagrams of the packaging box in the first sub-state.

**[0062]** Optionally, the connecting plates 40 arranged in pairs in the packaging box in the first state (as shown in FIG. 1) are at first respectively turned by at a certain angle toward the direction of the second surface, and then turned by a certain angle toward the direction of the first surface, and then turned by a certain angle toward the direction of the second surface, to locate both the connecting plates 40 arranged in pairs on a side of the first box body 10 away from the first opening 11b in the first direction X and separate them from the side walls 12, and open the second opening 11b. In this case, the packaging box is changed from the first state to the second sub-state of the second state, and the packaging box is in the first shape and structure in the second sub-state (as shown in FIG. 7).

**[0063]** Exemplarily, the connecting plates 40 arranged in pairs in the packaging box in the first state are at first respectively turned by 90° toward the direction of the second surface, then turned by 90° toward the direction of

the first surface, and then turned by 180° toward the direction of the second surface, thus the packaging box is in the first shape and structure in the second sub-state.

**[0064]** Specifically, the first plates 41 arranged in pairs in the packaging box in the first state are turned by 90° toward the direction of the second surface with respect to the bottom wall 13, and then the second plates 42 arranged in pairs and/or first sub-plates 421 arranged in pairs are turned by 90° toward the direction of the first surface with respect to the first plate 41, and then both the first plates 41 arranged in pairs are turned by 180° toward the direction of the second surface with respect to the bottom wall 13, thus the packaging box is changed from the first state (as shown in FIG. 1) to the first shape and structure in the second sub-state (as shown in FIG. 7).

**[0065]** In this case, the second box body 20 and the third box body 30 are respectively located on a side of the first box body 10 away from the first opening 11b in the first direction Y, and are attached to the first box body 10, to open the first opening 11b. The user can observe the products in the first accommodating portion 11 through the first opening 11b, or take and place the products in the first accommodating portion 11 through the first opening 11b. Optionally, the packaging box in the second shape and structure in the first sub-state in the second state (as shown in FIG. 6) is turned by 180°, to respectively move the first sub-plate 421 and the second sub-plate 422 toward each other along the second direction Y to be attached to each other, thus both the connecting plates 40 arranged in pairs are respectively arranged on the side of the first box body 10 away from the first opening 11b in the first direction X and separated from the side wall 12, to open the first opening 11b. In this case, the packaging box is changed from the first state to the second sub-state of the second state, and the packaging box is in the second shape and structure in the second sub-state (as shown in FIG. 8).

**[0066]** In this case, the second box body 20 and the third box body 30 are respectively located on the side of the first box body 10 away from the first opening 11b in the first direction Y and are spaced apart from the first box body 10. The user can lift the packaging box through the first sub-plate 421 and the second sub-plate 422 attached to each other, which is beneficial to improve the functionality of the packaging box and improve the fun of using the packaging box of the present disclosure to meet users' different needs.

**[0067]** It can be understood that the above embodiment is only an example of the turning process of the connecting plates 40 in which the packaging box is changed from the second shape and structure in the first sub-state to the second shape and structure in the second sub-state. The proposed packaging box can also be changed from other states to the second shape and structure in the second sub-state, and is not limited thereto.

**[0068]** Optionally, as shown in FIG. 1 and FIG. 2, in the first state, the angle between one of the connecting

plates 40 attached to the side walls 12 of the first box body 10 and the bottom wall 13 is 90°. That is, the orthographic projection of the connecting plates 40 attached to the side walls 12 of the first box body 10 and the bottom wall 13 in the first direction X has an L-shaped structure.

**[0069]** Exemplarily, in the first state, the angle between the first plate 41 and the bottom wall 13 is 90°.

**[0070]** Optionally, in the second state, the angle between one of the connecting plates 40 at least partially separated from the side walls 12 and the bottom wall 13 is larger than 90°.

**[0071]** Exemplarily, as shown in FIG. 3 to FIG. 6, in the first sub-state, the angle between one of the connecting plates 40 at least partially separated from the side walls 12 and the bottom wall 13 is 180°. That is, the orthographic projection of one of the connecting plates 40 at least partly separated from the side walls 12 and the bottom wall 13 in the first direction X has a linear structure.

**[0072]** Exemplarily, in the first sub-state, the angle between the first plate 41 and the bottom wall 13 is 180°.

**[0073]** Exemplarily, as shown in FIG. 7, in the second sub-state, the angle between one of the connecting plates 40 at least partially separated from the side walls 12 and the bottom wall 13 is 360°. That is, the connecting plates 40 at least partially separated from the side walls 12 and the bottom wall 13 are stacked in the first direction X. Alternatively, as shown in FIG. 8, the angle between one of the connecting plates 40 at least partially separated from the side walls 12 and the bottom wall 13 is between 120° and 160°, forming a "∩"-shaped structure.

**[0074]** Exemplarily, in the second sub-state, the angle between the first plate 41 and the bottom wall 13 is 360° or between 120° and 160°.

**[0075]** The packaging box proposed in the embodiments of the present disclosure can be changed in various shapes and structures. It is only necessary to turn the connecting plates 40 to change the connection between the connecting plates 40 and the first box body 10, which is convenient for operation and can improve the functionality, versatility and fun of the packaging box to meet users' different needs.

**[0076]** In some optional embodiments, in the first state, the length of the first plate 41 in the first direction X is the same as the length of the side wall 12 in the first direction X.

**[0077]** Through the above arrangement, it is beneficial to ensure the cleanness of the products in the first accommodating chamber 11a, and prevent external foreign particles from entering the first accommodating chamber 11a from a gap between the first box body 10 and the first plate 41 to destroy internal products, which is beneficial to improve the protection of the product and improve the safety and reliability of the packaging box.

**[0078]** At the same time, it is also beneficial to turn the connecting plate 40, thus the packaging box has a variety of different shapes and structures, thereby improving the multi-functionality of the packaging box and meeting us-

ers' different needs.

**[0079]** In some optional embodiments, in the first state, the length of the first plate 41 in the first direction X is the same as the length of the second box body 20 and/or the third box body 30 in the second direction Y.

**[0080]** Through the above arrangement, it is beneficial to turn the connecting plate 40, thus the packaging box has a variety of different shapes and structures, thereby improving the multi-functionality of the packaging box and meeting users' different needs. At the same time, it is beneficial to improve the aesthetics of the packaging box.

**[0081]** Optionally, in the first state, the length of the side wall 12 in the first direction X is the same as the length of the second box body 20 and/or the third box body 30 in the second direction Y.

**[0082]** Optionally, in the first state, the length of the first sub-plate 421 in the first direction X is the same as the length of the second sub-plate 422 in the second direction Y.

**[0083]** Referring to FIG. 5 and FIG. 6, in some optional embodiments, along the first direction X, the bottom wall 13 is spaced apart from the first accommodating portion 11, and a cavity 13a is formed between the bottom wall 13 and the first accommodating portion 11.

**[0084]** Optionally, in the first direction X, the length of the first accommodating portion 11 is greater than the minimum distance between the first accommodating portion 11 and the bottom wall 13. Small items, such as a product specification, can be placed in the cavity 13a.

**[0085]** Optionally, the first box body 10 has a fourth opening communicated with the cavity 13a in the second direction Y. One fourth opening may be provided, and of course, two fourth openings may also be provided.

**[0086]** Since the second box body 20 and the third box body 30 are respectively located on both sides of the first box body 10 in the second direction Y and are spaced apart from the first box body 10, the products in the cavity 13a can be taken out from a side close to the second box body 20 along the second direction Y, or, from a side close to the third box body 30 along the second direction Y.

**[0087]** The packaging box provided in the embodiments of the present disclosure can be changed to the second state, and specifically, changed to the second shape and structure in the first sub-state, thus the items in the cavity 13a can be displayed or taken or placed, which is beneficial to improve the multi-functionality of the packaging box.

**[0088]** In some optional embodiments, all the first box body 10, the second box body 20 and the third box body 30 have a rectangular structure.

**[0089]** Through the above arrangement, it is beneficial for the packaging box to be changed in different states to have different shapes and structures to meet different user's needs. Optionally, in the third direction Z, orthographic projections of the second box body 20 and the third box body 30 are both square.

**[0090]** In some optional embodiments, the packaging box further includes a plurality of magnetic members, and each of the first box body 10, the second box body 20, the third box body 30 and the connecting assembly is provided with the magnetic members.

**[0091]** The packaging box provided in the embodiments of the present disclosure further includes a plurality of magnetic members, thus the packaging box can have a stable structure under different states, which is beneficial to protect the products in the box and prevent the products in the box from falling out, and. Furthermore, through the above arrangement, it is also beneficial for the opening, closing and operation of the packaging box to save operation time. When the packaging box is in the first state, sides of the first sub-plate 421 and the second sub-plate 422 close to each other in the second direction Y are respectively provided with the magnetic members. The first sub-plate 421 and the second sub-plate 422 can magnetically attached through the magnetic members to close the second opening 21b and the third opening 31b. Sides of the second box body 20 and the third box body 30 close to each other in the second direction Y are respectively provided with the magnetic members, and the second box body 20 and the third box body 30 are arranged to close the first opening 11b. Optionally, a magnetic attraction effect can occur between the magnetic members on the first sub-plate 421 and the magnetic members on a side of the second box body 20 close to the third box body 30 in the second direction Y, thus the first sub-plate 421 is attached to a side of the second box body 20 close to the third box body 30 in the second direction Y. Correspondingly, a magnetic attraction effect can occur between the magnetic members on the second sub-plate 422 and the magnetic members on a side of the third box body 30 close to the second box body 20 in the second direction Y, thus the second side wall 12 is attached to a side of the third box body 30 close to the third box body 30 in the second direction Y.

**[0092]** The above embodiments only use the position of the magnetic members in the first state of the packaging box as an example for illustration, and the positions of the magnetic members in other states will not be repeated here.

**[0093]** Optionally, the first box body 10, the second box body 20, the third box body 30 and the connecting assembly may be provided with one or two magnetic members respectively, and of course, also provided with a plurality of the magnetic members.

**[0094]** Through the above arrangement, the magnetic members are used to absorb and fix the configuration, which is beneficial to improve the reliability of the fixing and configuration of the packaging box, and it is easy to close and change the state of the packaging box. Thus the packaging box has various combined structures of different shapes, which is easy to operate and has strong functionality.

**[0095]** The above embodiments are only preferred embodiments of the present disclosure, and are not intended

to limit the patent scope of the present disclosure. All equivalent structures or equivalent process changes made by using the description of the present disclosure and the drawings are directly or indirectly used in other related technical fields, are all included in the patent protection scope of the present disclosure in the same way.

## Claims

### 1. A packaging box, **characterized by** comprising:

a first box body (10) comprising a first accommodating portion (11), and the first accommodating portion (11) having a first accommodating chamber (11a) and a first opening (11b) communicated with the first accommodating chamber (11a) in a first direction (X);

a connecting assembly comprising connecting plates (40) arranged in pairs and distributed opposite to each other on two sides of the first box body (10) in a second direction (Y), and the second direction (Y) intersecting the first direction (X);

a second box body (20) connected with one of the connecting plates (40) arranged in pairs and having a second accommodating chamber (21a);

a third box body (30) connected with the other of the connecting plates (40) arranged in pairs and having a third accommodating chamber (31a);

wherein the packaging box is switchable between a first state and a second state to close or open the first opening (11b).

### 2. The packaging box according to claim 1, **characterized in that** the first box body (10) comprises a bottom wall (1) arranged opposite to the opening (11a) along the first direction (X), and the connecting plates (40) arranged in pairs are bendable relative to and connected with the bottom wall (13).

### 3. The packaging box according to claim 1, **characterized in that** each of the connecting plates (40) comprises a first plate (41) and a second plate (42) that are bendable relative to and connected with each other, the second box body (20) is connected with one of second plates (42) arranged in pairs, and the third box body (30) is connected with the other of the second plates (42) arranged in pairs.

### 4. The packaging box according to claim 3, **characterized in that** the second box body (20) has a second opening (21b) communicated with the second accommodating chamber (21a) in the first direction (X), and the third box body (30) has a third opening (31b) communicated with the third accommodating cham-

ber (31a) in the first direction (X).

### 5. The packaging box according to claim 3, **characterized in that**, in the first state, a length of the first plate (41) in the first direction (X) is the same as that of a respective side wall (12) in the first direction (X).

### 6. The packaging box according to claim 3, **characterized in that**, in the first state, a length of the first plate (41) in the first direction (X) is the same as that of the second box body (20) and/or the third box body (30) in the second direction (Y).

### 7. The packaging box according to claim 2, **characterized in that**, along the first direction (X), the bottom wall (13) is spaced apart from the first accommodating portion (11), and a cavity (13a) is formed between the bottom wall (13) and the first accommodating portion (11).

### 8. The packaging box according to claim 1, **characterized in that**, the first box body (10), the second box body (20) and the third box body (30) are each formed in a rectangular structure.

### 9. The packaging box according to claim 1, **characterized in that**, the packaging box further comprises a plurality of magnetic members, and the first box body (10), the second box body (20), the third box body (30) and the connecting assembly are respectively provided with the magnetic members.

### 10. The packaging box according to claim 1, **characterized in that** the second state comprises a first sub-state and a second sub-state, and the packaging box is switchable between the first sub-state and the second sub-state; and in the first sub-state, the connecting plates (40) arranged in pairs are respectively arranged on two sides of the first box body (10) along the second direction (Y), and in the second sub-state, the connecting plates (40) arranged in pairs are both arranged on one side of the first box body (10) along the first direction (X).

### 11. The packaging box according to claim 3, **characterized in that** in the first state, first plates (41) arranged in pairs are respectively attached to side walls (12) of the first box body (10) in the second direction (Y).

### 12. The packaging box according to claim 3, **characterized in that** in the second state, the first plates (41) arranged in pairs are respectively at least partially separated from the side walls (12).

### 13. The packaging box according to claim 4, **characterized in that** each of the second plates (42) comprises a first sub-plate (421) and a second sub-plate (422)

that are bendable relative to and connected with each other, the first sub-plate (421) is provided between the first plate (41) and the second sub-plate (422) and is bendable relative to and connected with both the first plate (41) and the second sub-plate (422), one of second sub-plates (422) arranged in pairs is adapted to close the second opening (21b), and the other of the second sub-plates (422) arranged in pairs is adapted to close the third opening (31b).

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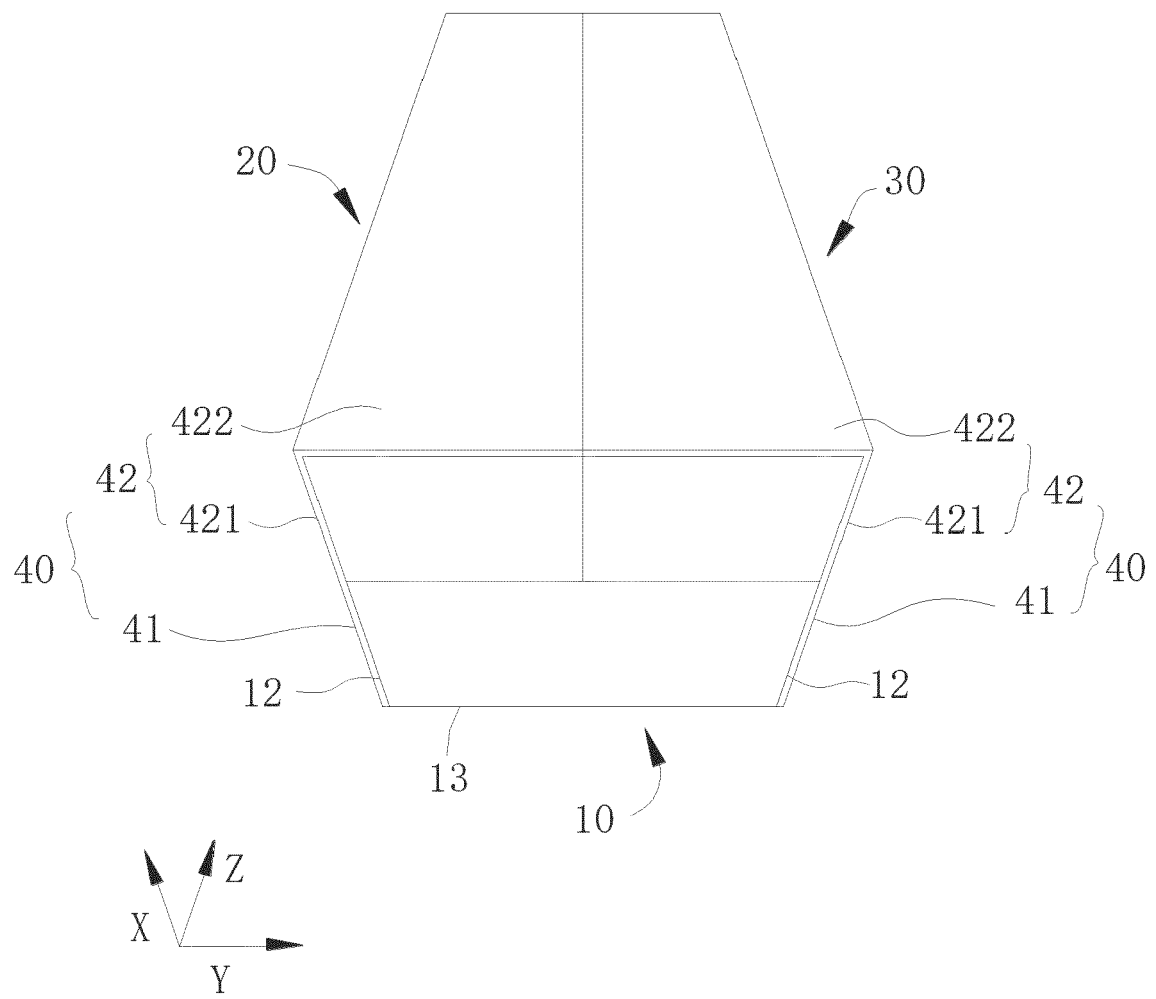


FIG. 1

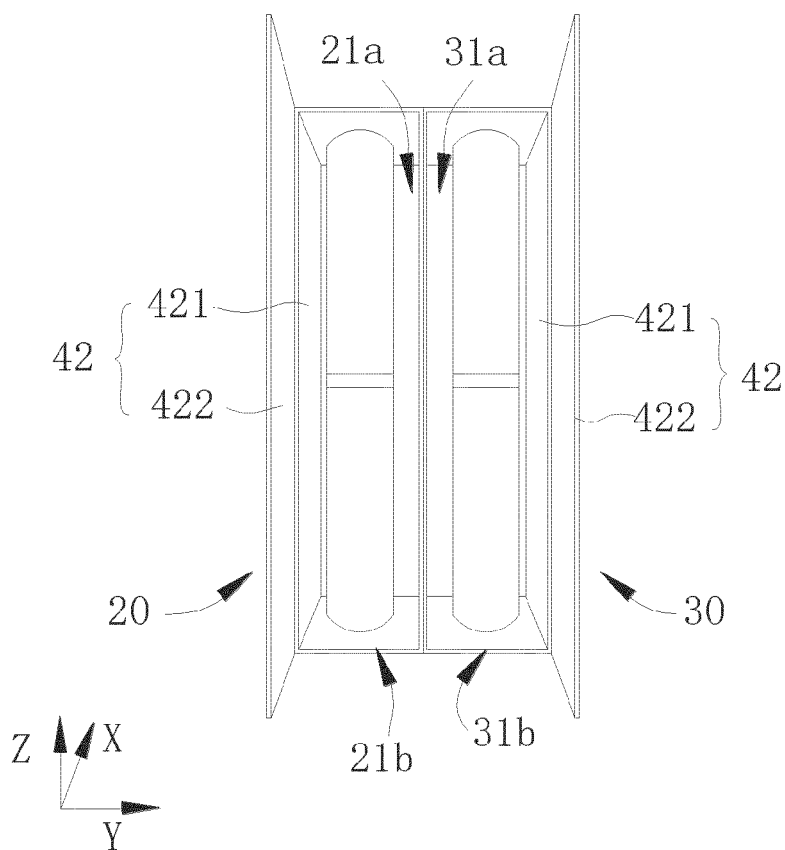


FIG. 2

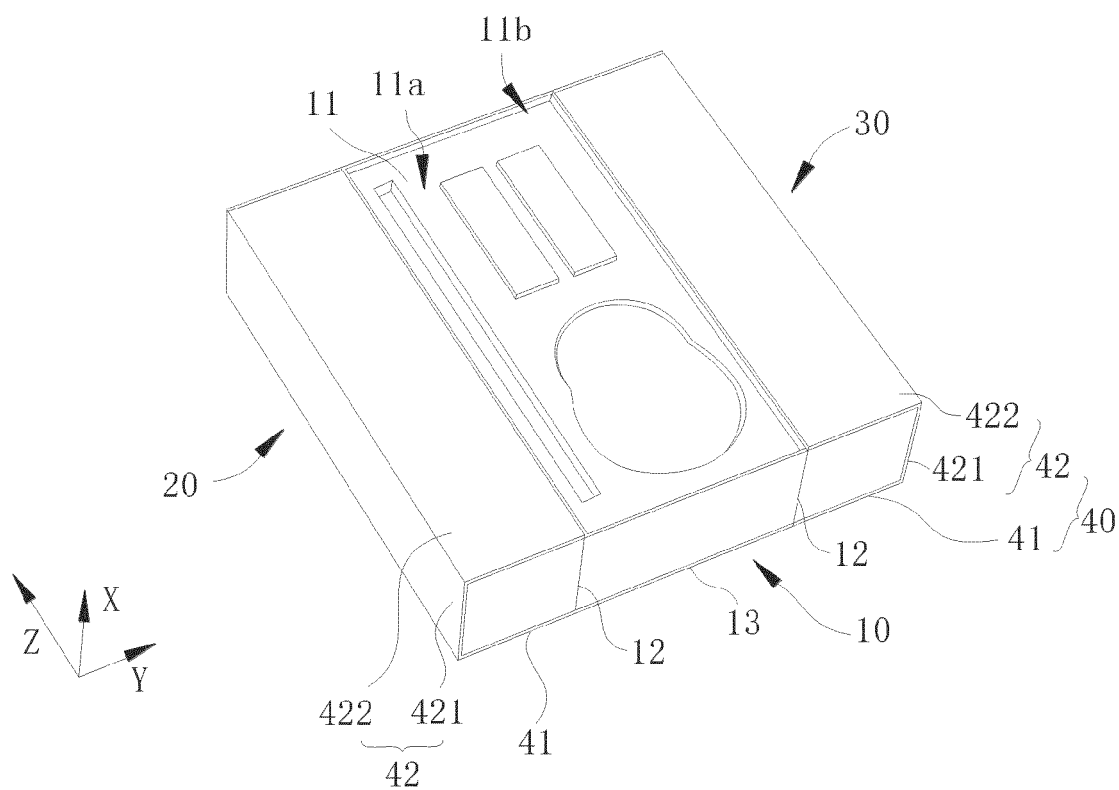


FIG. 3

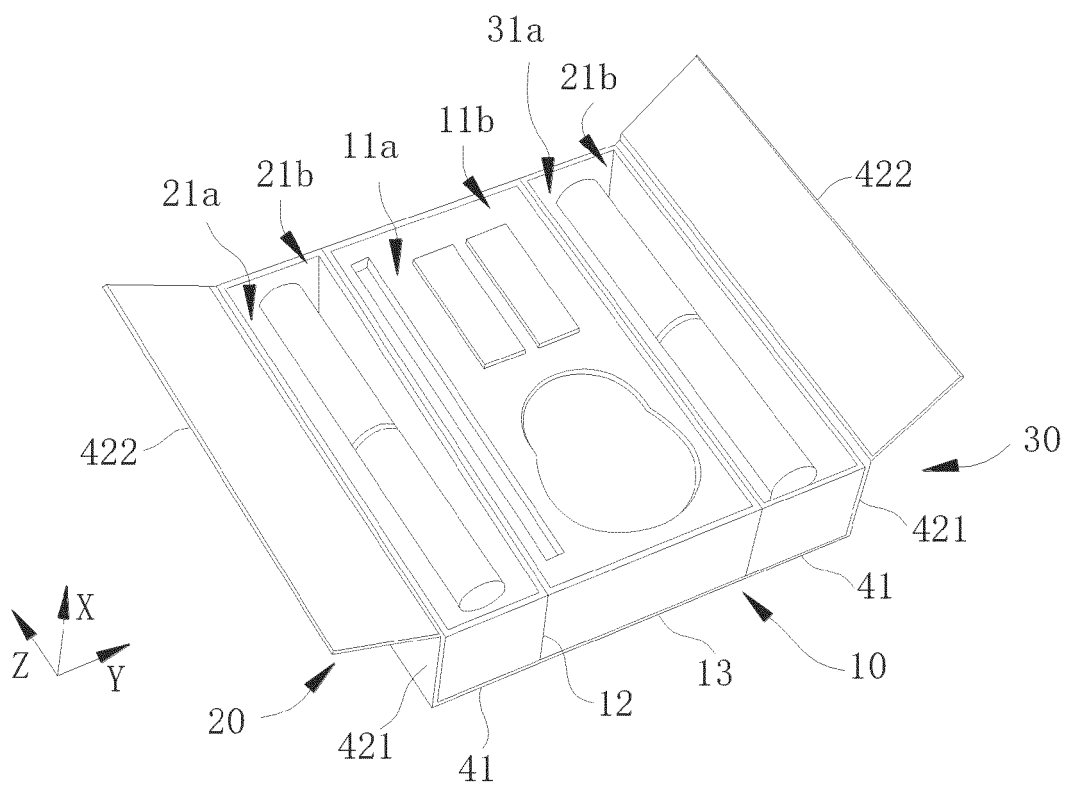


FIG. 4

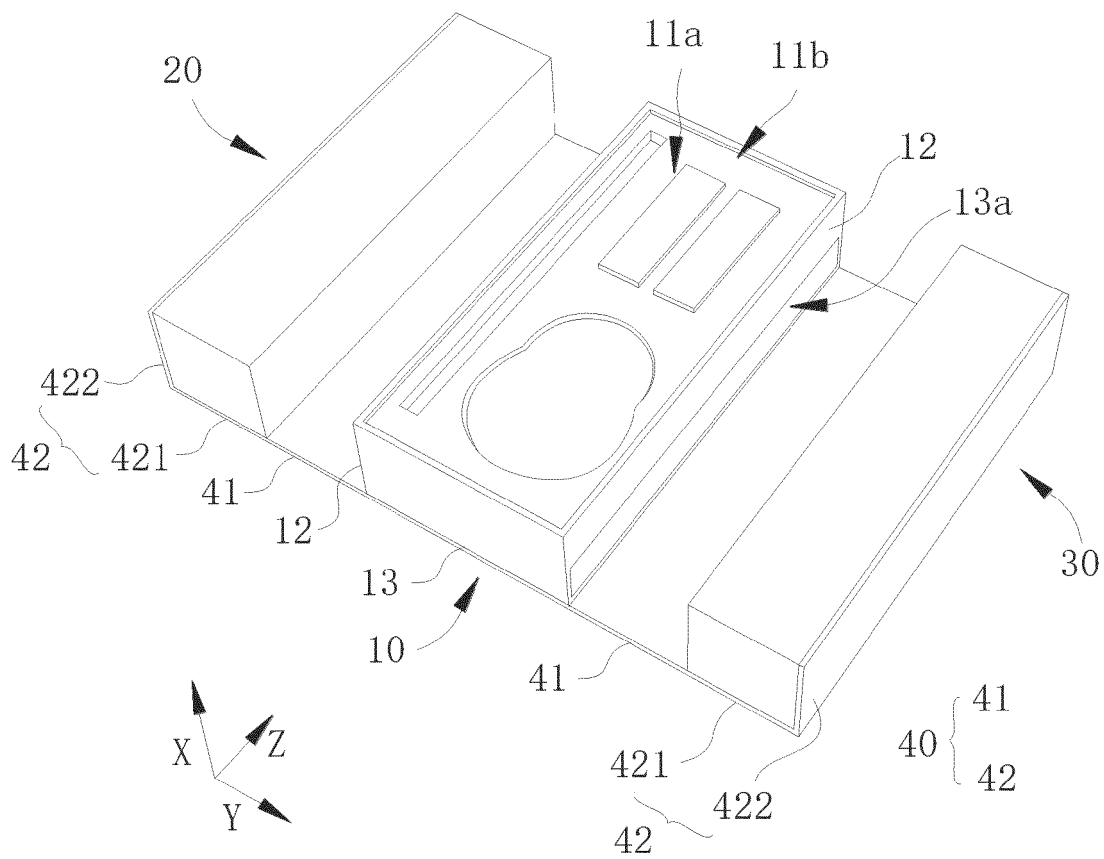


FIG. 5

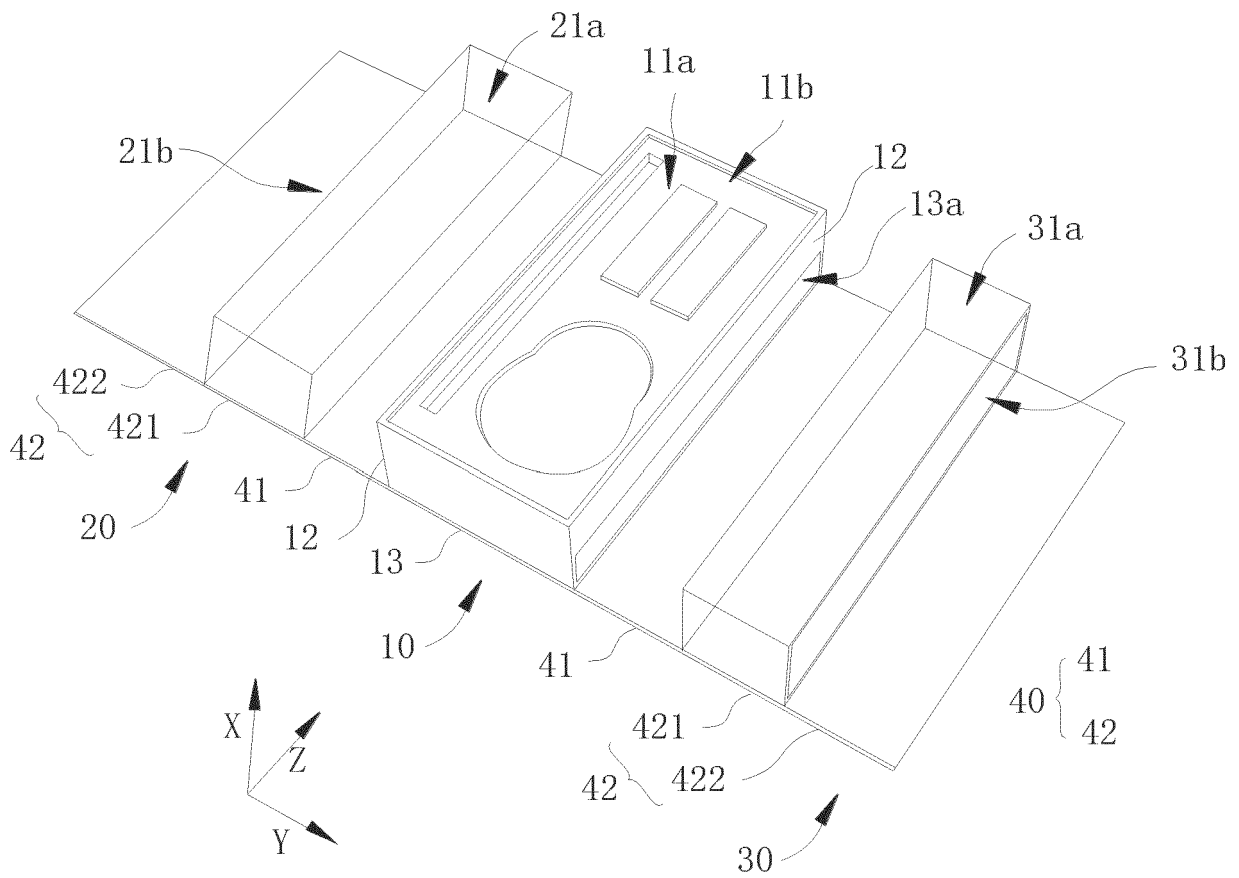


FIG. 6

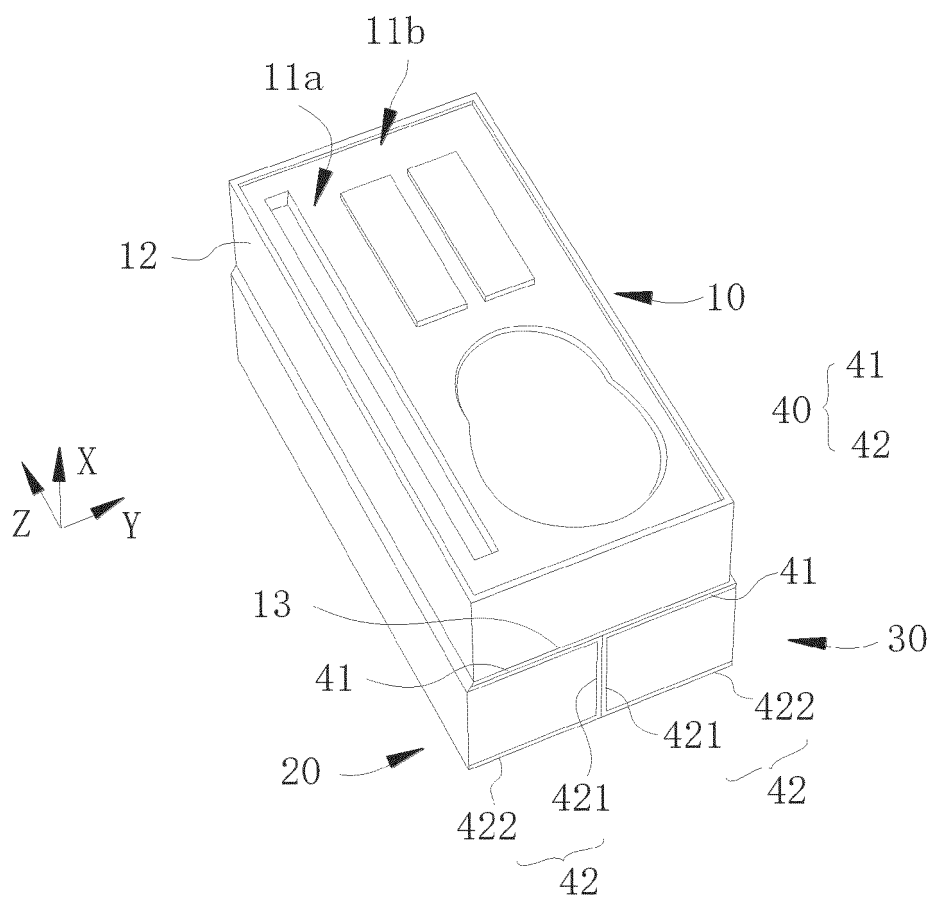


FIG. 7

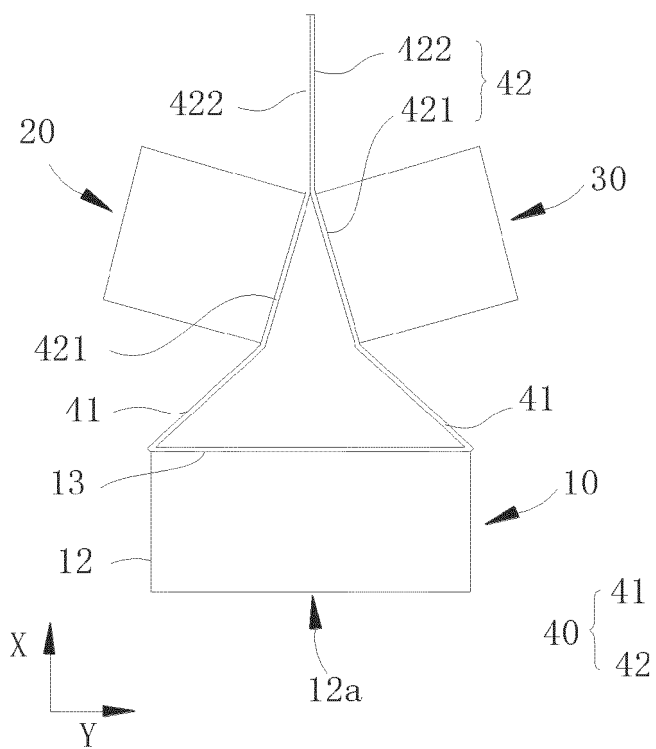


FIG. 8



## EUROPEAN SEARCH REPORT

Application Number

EP 23 21 6831

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Munich		20 May 2024	Duc, Emmanuel
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